

MARK D. ROKOFF, PE

Business Development Manager



Mark serves as a business development manager focused on the leveraging his experience of serving many of the nation's largest power utilities to deliver safe, cost-effective solutions to complex environmental challenges. He has served as an executive lead on numerous programs where he supports project teams with strategic advice and aids with problem solving, aligns project teams with the expectations and understanding of risk of key stakeholders, establishes, maintains,

and deepens relationships with utility clients, implements measures to improve consistency, quality and efficiency among project teams, and develops and monitors critical success factors for project and solution delivery. As a partner to his clients, Mark helps to deliver on their core values while integrating with management to best align the project work products. As a subject matter expert on coal ash management, Mark has performed and been involved with geotechnical, civil, and geo-environmental engineering designs as well as construction related programs/projects through the full life cycle of multi-disciplinary permitting and remediation projects (e.g. coal combustion products (CCP) management). In these programs and projects, Mark has developed expertise in the design and application of CCP solutions including regulatory compliance in an evolving industry, innovative approaches and answers to site and design challenges, complimentary services in water and groundwater management as well as conveyance systems, and overall expertise in the development and operation of disposal and beneficial use facilities and applications. More recently, and in conjunction with the coal ash rule changes, Mark has conducted regulatory review and evaluation of best practices as well as strategic planning for potential regulatory changes to operations and management. He is a common speaker on this subject and is a recognized expert in this field.

EDUCATION

- ▶ MS, Civil Engineering
- ▶ BS, Civil Engineering

REGISTRATIONS

- ▶ Professional Engineer, No. E-67217 (Ohio)

AREAS OF EXPERTISE

- ▶ Executive and Program Leadership
- ▶ Coal Combustion Products,
- ▶ Coal-Fired Power Projects,
- ▶ Solid Waste Management and Permitting,
- ▶ Geotechnical Engineering,
- ▶ Geo-Environmental Engineering, Civil Engineering
- ▶ Strategy and Planning

1 YEAR WITH BURNS & MCDONNELL

24 YEARS OF EXPERIENCE

CCP Closure/Beneficial Use Cost Evaluation and RFP Development | Confidential Client

Michigan | Aug 2021 - Present

CCP Lead. Provided strategy and implementation support for the development of a proforma and market assessment for the possible beneficial use of ponded CCP as well as conceptual cost development of other approaches (closure in place, closure by removal, etc.). In addition to the development of the proforma and supporting engineering/documentation, the technical portions of an RFP was developed to test the conclusions and assumptions with the industry regarding beneficial use. Bid evaluation and reporting wrap up the first phase of the scope.

Design and Construction Permit Preparation to Satisfy Illinois Part 845 CCR Surface Impoundment Regulations | Confidential Client

Illinois | 2021 - Present

QA/QC and CCP Strategy. Provided strategy and technical support for the development of a construction permit and final closure plan for a 172-acre CCR surface impoundment in central Illinois. Specific tasks included development of design

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drawings and specification for surface impoundment closure, involving the removal, consolidation and capping of CCR; dewatering and water treatment plan development; geotechnical analysis of slopes and final cover system; and hydrologic and hydraulic design of a stormwater management system. QA/QC activities involved plan and report review, review of design and analysis calculations, and permit application review.

Operating Permit Preparation to Satisfy Illinois Part 845 CCR Surface Impoundment Regulations | Confidential Client Illinois | 2021 – Present

QA/QC and CCP Strategy. Provided strategy and technical support for the development of initial operating permits for 16 CCR surface impoundments located at eight separate coal-fired power plants in Illinois. Specific tasks included review and development of updated location restriction assessments, emergency action plans, preliminary closure plans, post-closure care plans, and fugitive dust control plans, and the development and review of operating permit packages for all 16 impoundments. QA/QC activities involved plan, report and permit application review.

Liner Certification and CCP Regulatory Compliance | Confidential Client Arizona | 2021 – Present

QA/QC and CCP Strategy. Provided strategy and technical support for the development of a Liner Certification for a collection of CCP ponds including extensive planning on approach and execution including Agency engagement. Specific tasks included the compilation and statistical evaluation of a robust subsurface investigation, analysis of liner performance and equivalency, and documentation for submission to the Agency.

Illinois Part 845 Regulatory Review Expert Witness* | Confidential Client Illinois | Mar 2020 – Apr 2021

Expert Witness (CCP). Author and presenter of written expert testimony in 2020 on the Proposed Illinois Administrative Code Title 35, Subtitle G, Chapter I, Subchapter J, Part 845: Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments based on our market knowledge and on industry data from the CCR websites procured and analyzed in the data analytics tool “Ash Mart”. Using the leadership position in the CCR industry along with “Ash Mart”, expert testimony was submitted to rule-makers, utilities, and environmental groups to deliver critical perspectives and provide technical clarity regarding the approach to closure, benchmarking data (size, cost, etc.), and the factors impacting the decision process. As part of this effort, I also provided oral testimony during a public administrative hearing with interested stakeholders including the Illinois Pollution Control Board (IPCB).

CCP Management Program Services* | Confidential SE Power Company Charlotte, NC | Jul 2014 – Jun 2021

Project Manager & CCP Lead. Provided technical leadership in the development of the CCP program to manage coal ash throughout their fleet. Key services included program establishment and development of technical procedures, preparation and strategy around compliance with the Federal CCR Rule since before the effective date, O&M guidance for disposal and beneficial use facilities throughout the fleet, and technical and regulatory strategy, planning, and engineering associated with existing and new CCR units. Responsibilities include providing direction to leadership and technical teams as well as effective communication and guidance to all consultants supporting CCP management. Further responsibilities also centered on project and task management, technical delivery, and more.

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CCP Management Program Services* | TVA

Chattanooga, TN | May 2009 – Jun 2021

Assistant Program Manager & CCP Management Technical Lead. Retained by TVA to provide engineering, permitting, design, and construction quality control services for the management of CCP materials at 5 of coal plants in Tennessee and Alabama. These tasks are centered on siting, permitting, and construction of new landfills; closure and high hazard evaluation of existing ash impoundments; remedial tasks to address instabilities and other similar concerns; engineering design for new spillways; and closure of existing wet and dry facilities. Since then, our services have expanded to include operational support, owner's engineer for Dewatering facilities, and more.

A key responsibility has been the direct involvement in technical expertise during the establishment of new programmatic policies and metrics for the CCP Management group, including a Programmatic Document. This Document provides appropriate standards for the design, permitting, construction, operation, and inspection of facilities managing CCP materials. In addition, an extensive multi-state beneficiation study was performed to define the demand for CCPs in the concrete market.

Material Characterization Testing Program* | TVA

Chattanooga, TN | Jan 2013 – Dec 2014

Principal. A total of 30 different CCP materials from 11 power stations in 3 states were collected according to sampling plans that were developed and executed. CCP materials were verified, and a testing program was implemented to establish the characterization of the CCP for an array of 20 physical tests and 7 separate chemical tests. The results were incorporated into a customizable database alongside historical data from previous studies for which training was created and provided to both advanced and standard users. Responsibilities included overall project quality, successful execution of all aspects of the scope, oversight of internal project delivery and management, and communication with the client.

CCP Benchmarking Survey* | TVA

Chattanooga, TN | Jan 2012 – Dec 2012

Principal. Assisted with the development of a CCP beneficial reuse survey to identify best management practices among other utilities for the beneficial reuse of fly ash, bottom ash, FGD and boiler slag. 48 utilities were contacted in a double-blinded survey. The team developed and conducted the survey, evaluated the data and prepared a summary PowerPoint presentation with the key findings from the survey. The presentation focused on relationships between corporate policy and beneficial reuse rates, CCP revenue and production, ways that utilities subsidize CCP beneficial reuse, challenges, use of in-house vs. outside marketers and best management practices used by industry. A second presentation was prepared with findings and trends which was sent to the survey respondents. Responsibilities included overall project quality, successful execution of all aspects of the scope, oversight of internal project delivery and management, and communication with the client.

Engineering and Cost Assessment of Listed Special Waste Designation of CCRs Under Subtitle C* | Electric Power Research Institute (EPRI)

Milwaukee, Minnesota | May 2011 – Aug 2012

Project Manager. Developed the scope of improvements necessary to comply with the proposed Subtitle C (hazardous waste) regulatory scenario and corresponding costs for model plants defined to represent the utility industry in the US by following the release of the US EPA's proposed CCR Rules. Continued services included aiding an economic company (Veritas) in the further development of these costs in an industry-wide financial impact study. The team documented the scope, costs, and assumptions in a report that accompanied the final product. In addition, various interpretations of the proposed rule including the application of seismic design criteria were developed and documented.

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Disposal Site Economic Model for CCR Under Proposed Federal Non-Hazardous Waste Regulations* | EPRI

Milwaukee, Minnesota | Jan 2010 – Nov 2010

Project Manager and Subject Matter Expert. In response to the US EPA's proposed CCR Rules, a report was developed that provided the baseline capital and operational costs for existing impoundment closure, existing CCR landfill closure, development and closure of a new surface impoundment, and development and closure of a new CCR landfill. These baseline costs were then broken into generalized unit costs that are more easily extrapolated for high-level budgetary estimates. Finally, qualitative discussion and, where possible, quantitative estimates for the schedule and cost impacts of additional items outside of the baseline assumptions are given.

Strategic Planning and Regulatory Evaluations Subject to the US EPA's Proposed CCP Rules* | Confidential Clients (6 Leading US Utility Clients)

U.S. | Jan 2011 – Dec 2014

Project Manager and Subject Matter Expert. In response to the US EPA's proposed CCR Rules, six major utility clients (under separate, and confidential projects) retained the team to perform similar scopes to support management planning activities in response to the pending changes in CCP management at their coal plant fleets. Specific activities varied, but included well documented development of outcomes of the proposed Rules and the impact to current management methods (both for Subtitle D and C scenarios), documented assessment of the impact to mine filling operations, conceptual design and budgetary costing of the possible outcomes new landfills and pond closures (one project exceed 100 cost estimates), review of current practices and recommendations for short and long-term actions, assessment of current facilities, and strategic planning for innovative solutions that meet the proposed rule. Each of these studies concluded in a comprehensive report for the client to use as a high-level planning tool in the continued and future operation of CCP management.

Dry Ash Conversion Study – Pond/Landfill Evaluation* | DTE Energy

Monroe Power Plant, Michigan | May 2015 – Jun 2021

Principal. Conceptualized, designed and implemented a solution to remove approx. 30% of a CCR surface impoundment from inclusion within the requirements of the federal CCR Rule via the design and construction of a 2,400 foot separation berm that defined the limits of closure. Services continued to support regulatory compliance reporting and certification, establishment and management of a groundwater program, an assessment of beneficial use (including an investigation and characterization as well as strategy and planning support), conveyance assessments (onsite and offsite), and design and OE services to close and certify the impoundment. In addition, on an adjacent fly ash pond, we performed an evaluation to close and convert the existing surface impoundment to a dry landfill engineered over the closed section of the impoundment and assessed the feasibility of constructing a haul road (including a high-performance bridge) from the plant to the dry landfill. The team worked with other internal personnel in evaluating the dry conversion of the power plant processes. A final report contained the alternative configurations and conceptual designs, cost estimates, and project schedule as well as an overall assessment of path forward. Responsibilities included overall project quality, successful execution of all aspects of the scope, oversight of internal project delivery and management, planning and strategy and communication with the client.

Regional CCP Landfill Siting Study* | Confidential Client

Pennsylvania | Jan 2010 – Dec 2010

Project Manager. Retained to provide siting study services to explore a multi-state area for a regional landfill. Services included the implementation of Opti-Site, an approach for siting that overlays exclusionary and preferential criteria on a GIS based mapping before rasterizing the data and producing a ranking of viable candidate sites. Conveyance alternatives were a key component of this large study.

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Biomass Permitting Study* | FirstEnergy

Toronto, Ohio | Apr 2010 – Jul 2010

Project Manager. Provided permitting and regulatory services in the repurposing of a coal-fired plant to a biomass facility. Regulatory approaches and documentation were developed in support of Corporate Environmental Staff. This project was cancelled before completion.

Conesville Plant Haul Road* | American Electric Power

Coshocton, Ohio | Jan 2009 – Dec 2009

Project Manager. Engineering services for the design and preparation of construction documents for a four-mile haul road design to comply with MSHA standards as well as a 200-ft bridge design evaluation. Design investigation services for the project centers around surveying, geotechnical engineering, and hydraulics & hydrology specialties.

Big Sandy Plant* | American Electric Power

Central Kentucky | Jan 2012 – Jun 2021

Project Technical Reviewer and Regulatory Strategist. Served as the technical reviewer for the permitting and design of a residual waste facility to be located over a fly ash pond at a central Kentucky location. The project includes negotiations with state regulatory officials, preparation of the three-tiered permit application to site and permit the residual waste facility, and preparation and oversight of construction documents. As the project evolved, the intent shifted to focus on the permitting, design, and construction support associated with the closure of the CCR pond.

Gypsum Landfill Permitting and Design and Pipe Conveyor System* | FirstEnergy Generation Corp.

Stratton, Ohio | Jan 2006 – Jun 2021

Project and Client Manager. Design and permitting services for a scrubber byproduct (Gypsum) disposal facility to accommodate a 20-year design life, in accordance with OAC 3745-30 regulations. Design aspects of the project include an evaluation of both dry and wet disposal management alternatives (e.g. traditional landfilling, wet stacking, and slurry ponding). As Project Manager, responsibilities include coordination, management (project and client), and execution of all services including an extensive siting study (over an 8-mile radius), project site investigations (e.g. geotechnical, hydrogeological, and wetlands delineation), and design and permitting with all applicable Agencies (including USCOE, ODNR, OEPA, Ohio Department of Historical Preservation and others). Project management responsibilities extend to also include assistance to the Client with financial, schedule, and other overall project related tasks. In addition to the landfill design and permitting tasks, the project included preparation of construction documents for a three-mile pipe conveyor system foundation systems, access and permanent roads, and large gypsum drop pad as well as all surveying, property research and execution of ecological and geotechnical site investigations to transport the gypsum from the plant to the landfill. Special considerations for this pipe conveyor system included crossing over streams, roads and a 400-foot elevation change resulting in a support structure that reaches 100 feet above ground for over 1000 feet.

More recently, services have been extended to include assistance in operational development of the site including ongoing reporting and permitting services. The team has also been developing construction documents for the continued development of the landfill into phase 2. In these projects, the role of project (and subsequently, client) manager continues.

Westland, Faulkner and Brandywine Ash Storage Facilities* | Mirant/GenOn

Maryland | Jan 2005 – Jun 2008

Lead Engineer – CCP Evaluations. Engineering services to evaluate three existing Ash Storage Facilities and Controlled Storage Areas (CSA) for cap & closure systems, leachate management improvements, and additional storage capacity. Each report serves as a detailed decision tool by thoroughly evaluating the alternatives against a set of defined evaluation criteria

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(including technical, schedule, economic, regulatory and other key factors), ranking the options, and developing budgetary estimates.

J.M. Stuart Station Landfill 11* | Dayton Power & Light

Aberdeen, Ohio | Jan 2001 – Dec 2007

Lead Geotechnical Engineer and Project/Client Manager. Fly Ash Pond 10. Planning, design and permitting services for a new fly ash tailings pond located at an electric utility plant in southern Ohio. Responsibilities included geotechnical engineering analyses and report preparation related to settlement, slope stability, and seepage.

Fly Ash Pond 11: Planning, investigation, design and permitting services for a new fly ash landfill constructed over the footprint of existing fly ash tailings ponds for an electric utility plant located in southern Ohio. As lead geotechnical engineer, responsibilities included coordination, management, and execution of site investigations, laboratory testing programs, in-situ monitoring activities, and design evaluation, analyses, and recommendations. Special geotechnical considerations for the design of the landfill over a loose saturated fly ash pond (i.e., two adjacent existing ponds) included. 1) Site investigations included a piezo-cone investigation, standard soil boring explorations, and installation and monitoring of piezometers, observation wells, and settlement plates within the existing ponds (a large scale preloading program over the closed pond was employed to verify and calibrate predicted responses); 2) Global settlement and slope stability analyses using the SLOPE/W computer program; 3) Design and evaluation of a pore pressure management system within the existing ponds; and 4) Alternative landfill liner system evaluation and demonstration involving a mixed fly ash/clay equivalent system (Ohio Environmental Protection Agency granted approval), which included management of a laboratory testing program for hydraulic conductivity testing of coarse and fine grained soils as well as mixed materials. Later, during construction, responsibilities as project manager included receiving, developing engineering responses, and presenting solutions for modification requests.

Fly Ash Landfill 11E and Construction Documents: Following the close of the adjacent (east) fly ash pond, an evaluation of the pond conditions was performed, the Permit was amended, and a construction level drawings and technical specifications were prepared. As project manager and lead geotechnical engineer, responsibilities included coordination, management, and execution of the investigation and subsequent engineering evaluations, coordination and development of the construction package (including incorporation of the feedback from the construction of Landfill 11W and ongoing monitoring program) as well as financial, schedule, and other overall project related tasks.

**Experience prior to joining Burns & McDonnell*